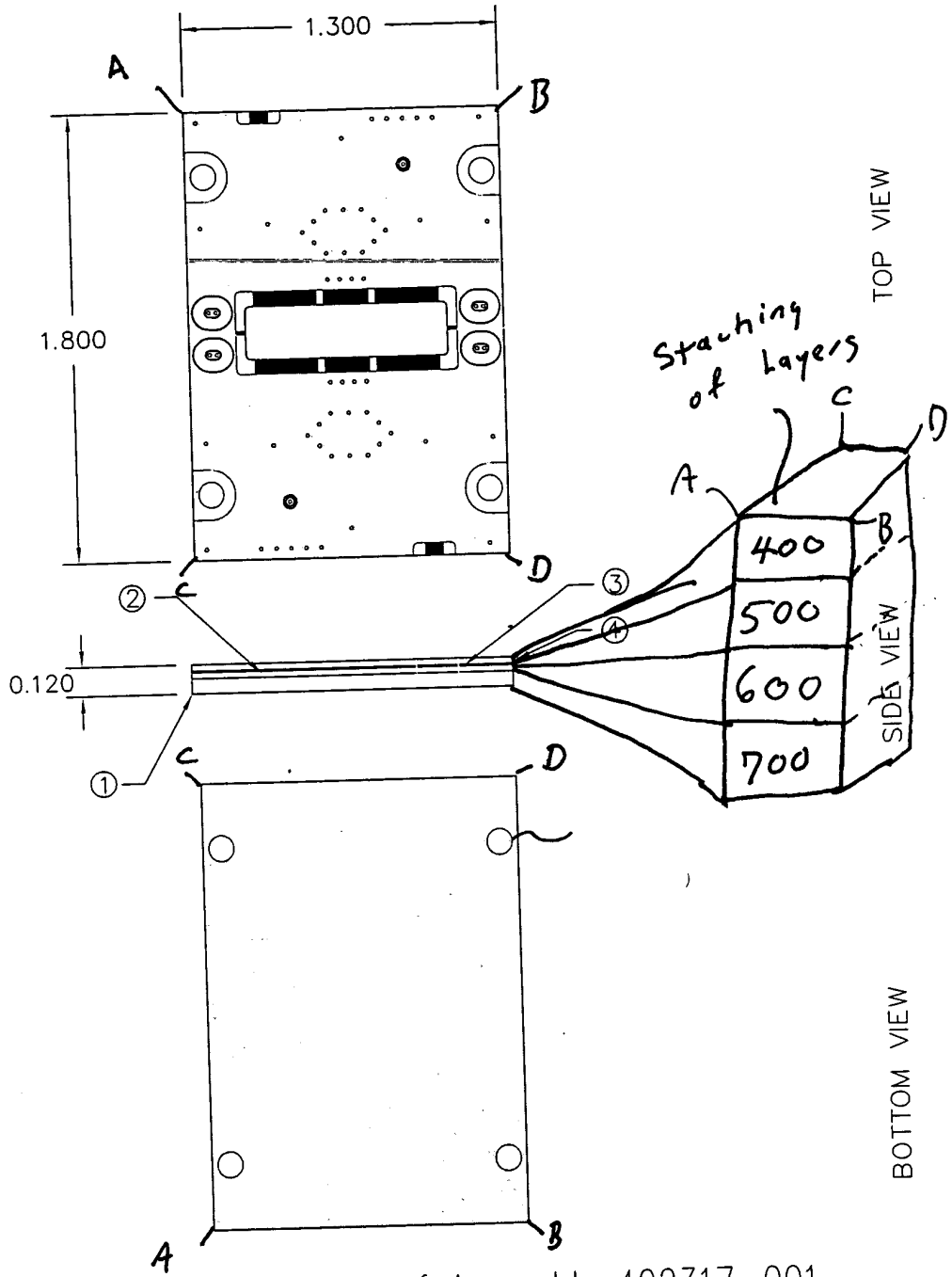
DRAWING NUMBER:
XMP402317



100

Top, Side, and Bottom View of Assembly 402317-001

Fig. 1

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SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402317	X2
SCALE: 1.5:1		SHEET: 2 of 9	

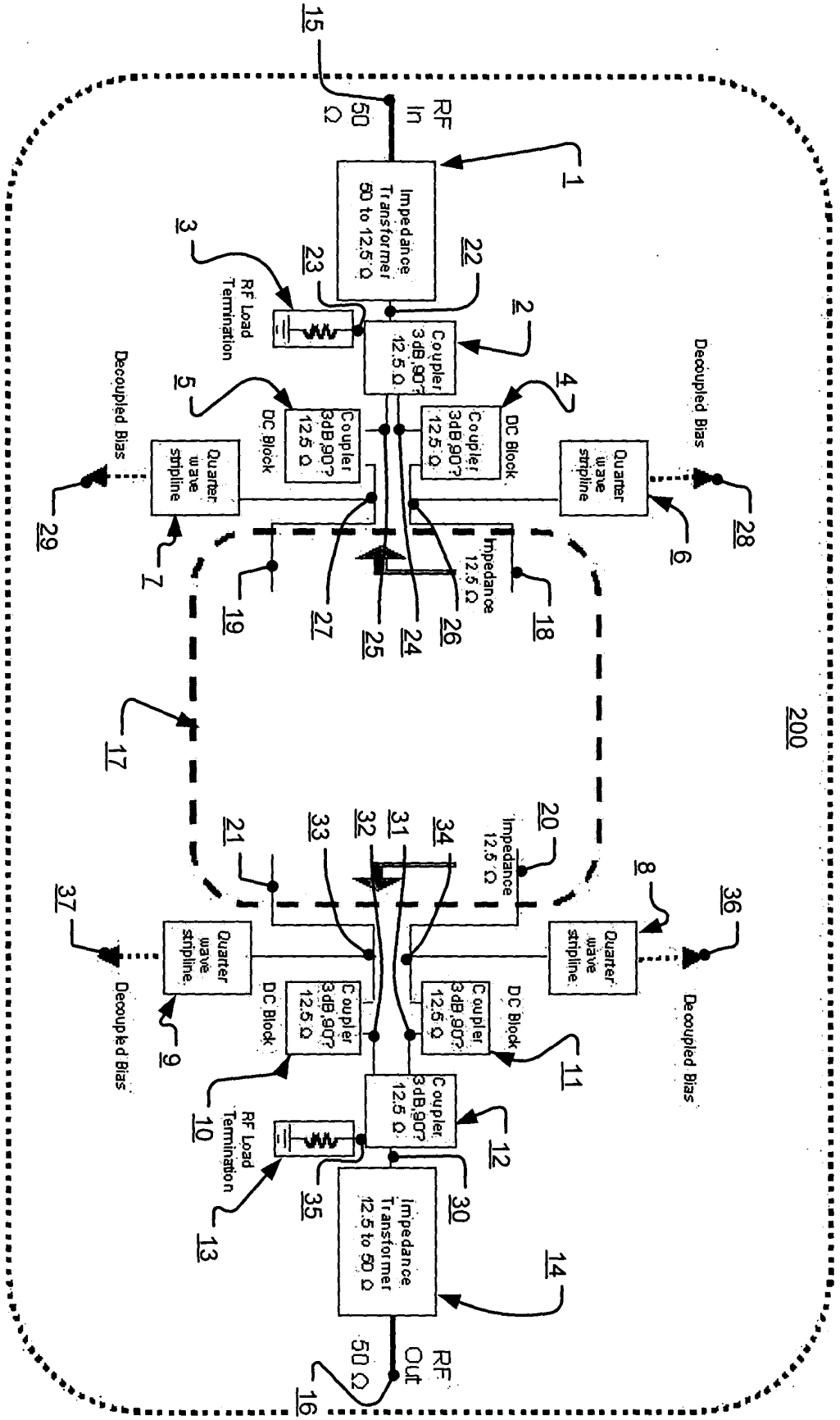

200
15
50 Ω
RF In
1
Impedance Transformer 50 to 12.5 Ω
22
23
3
RF Load Termination
2
Coupler 3dB,90° 12.5 Ω
4
Coupler 3dB,90° 12.5 Ω
DC Block
5
Coupler 3dB,90° 12.5 Ω
DC Block
Decoupled Bias
Quarter wave stripline
Quarter wave stripline
Decoupled Bias
28
6
29
7
19
27
25
24
26
Impedance 12.5 Ω
18
17
20
Impedance 12.5 Ω
21
33
32
31
34
8
36
37
Quarter wave stripline
Quarter wave stripline
Decoupled Bias
9
Coupler 3dB,90° 12.5 Ω
DC Block
Coupler 3dB,90° 12.5 Ω
DC Block
11
10
RF Load Termination
13
Coupler 3dB,90° 12.5 Ω
12
35
30
Impedance Transformer 12.5 to 50 Ω
14
RF Out
50 Ω
16

Fig. 2

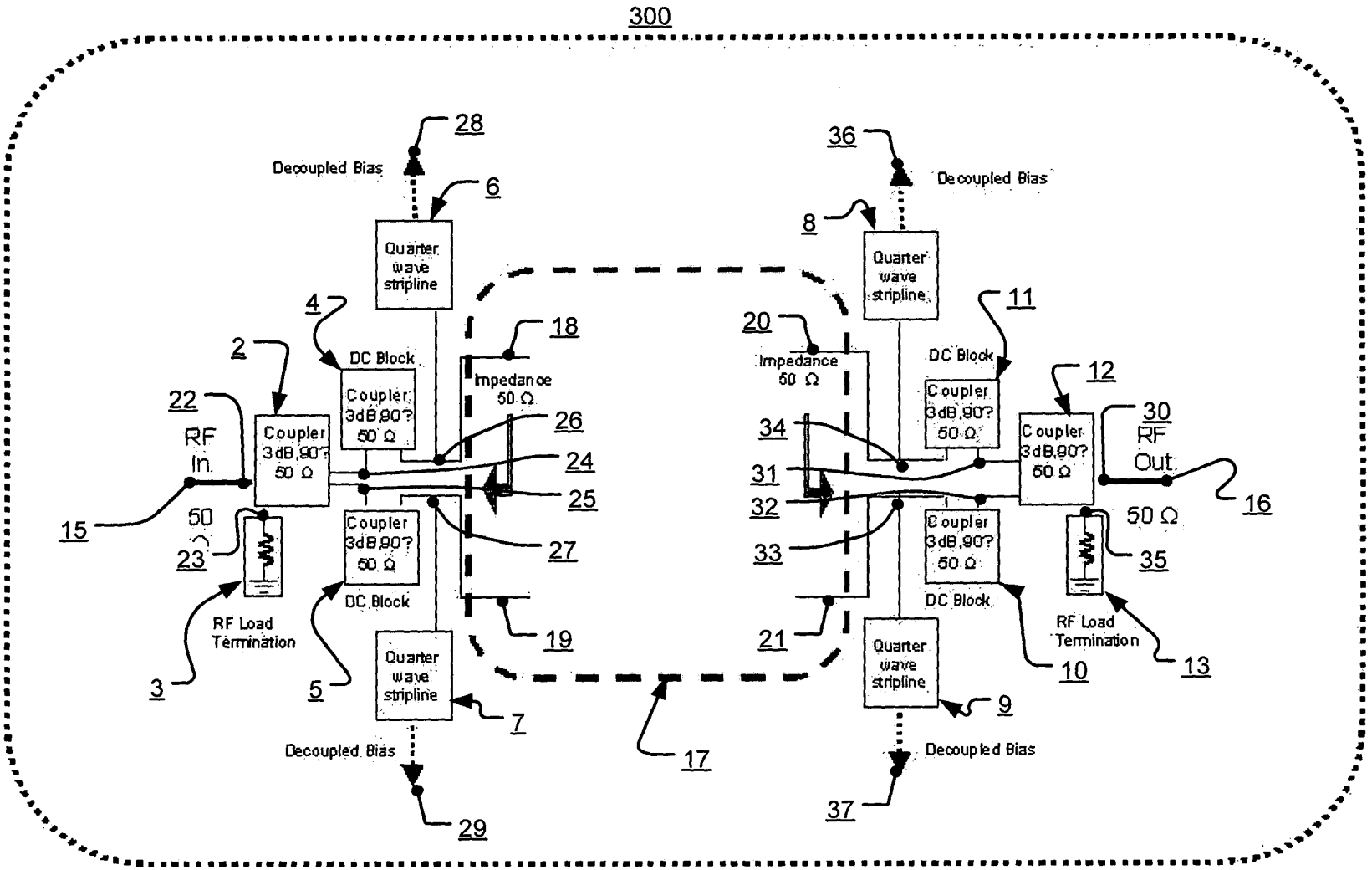
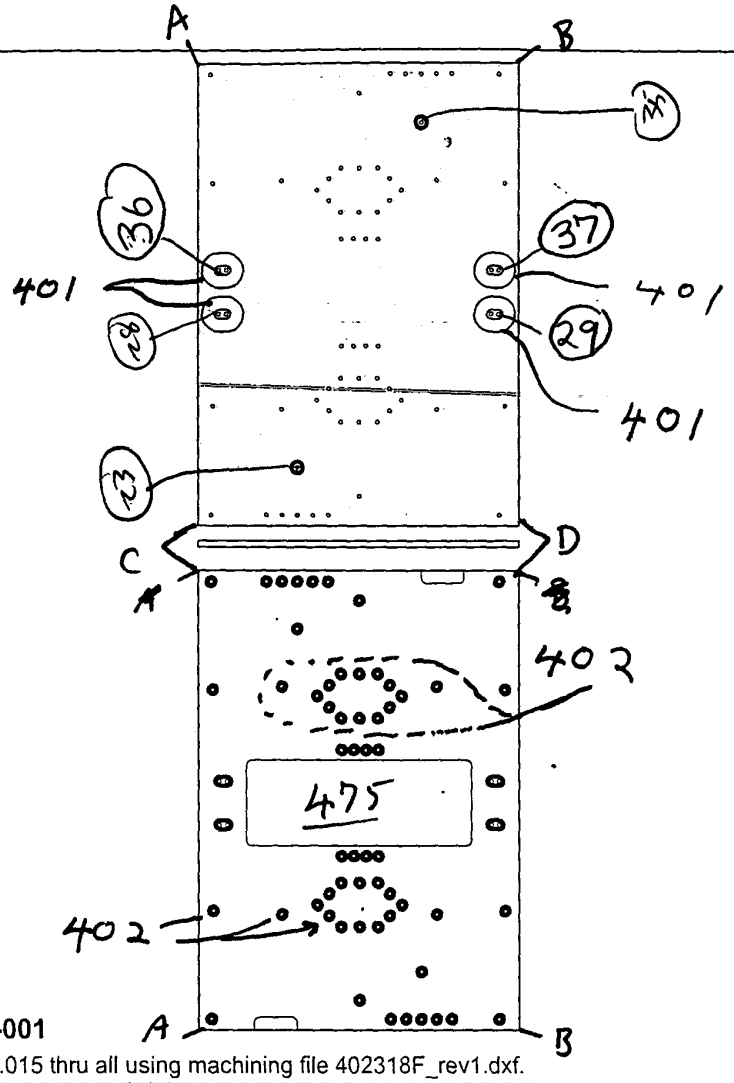

300
28
Decoupled Bias
6
Quarter wave stripline
4
DC Block
Coupler 3dB,90? 50 Ω
2
22
RF In
Coupler 3dB,90? 50 Ω
15
50
23
RF Load Termination
3
Coupler 3dB,90? 50 Ω
DC Block
5
Quarter wave stripline
7
Decoupled Bias
29
18
Impedance 50 Ω
26
24
25
27
19
17
36
Decoupled Bias
8
Quarter wave stripline
11
DC Block
Coupler 3dB,90? 50 Ω
20
Impedance 50 Ω
34
31
32
33
21
Coupler 3dB,90? 50 Ω
DC Block
Quarter wave stripline
9
Decoupled Bias
37
12
Coupler 3dB,90? 50 Ω
30
RF Out
16
50 Ω
35
RF Load Termination
13
10

Fig. 3

DRAWING NUMBER:
XMP402317



2. Panel 402318-001

2.1. Drill 66 holes Ø.015 thru all using machining file 402318F_rev1.dxf.

2.2 Plasma Etch per MMWI-1223
2.3. Plate Electroless Copper per MMWI-1039.
2.5. Laminate per MMWI-1201
2.6. Expose top and bottom sides of panel 402318-001 per MMWI-1204.
2.6.1 Use mask 402318MT-001_REV1 for top side.
2.6.2 Use mask 402318MB-001_REV2 for bottom side.
2.7. Develop per MMWI-1205.
2.4. Electrolytic Copper Plate per MMWI-1046
2.6. Electrolytic nickel/ Au plate (50 micro inches THK) per MMWI-1053.
2.9 Strip Photoresist per MMWI-1207
2.8. Etch Copper per MMWI-1211.
2.10. Clean Substrate prior to bonding per MMWI-1224.

2.11. Vacuum Bake 150°C for 1 hour.
2.12. Mill 2 slots .174 X .085 Ø.0355, 1 slot .914 X .335 Ø.0355, all 3 from the bottom side .015 deep using machining file 402318F_rev1.dxf.

Fig. 4

1	801640MMX-007	Rogers 3010, .025 THK, 1/2 oz CU	1
FIND NO.	PART NO.	DESCRIPTION	QTY

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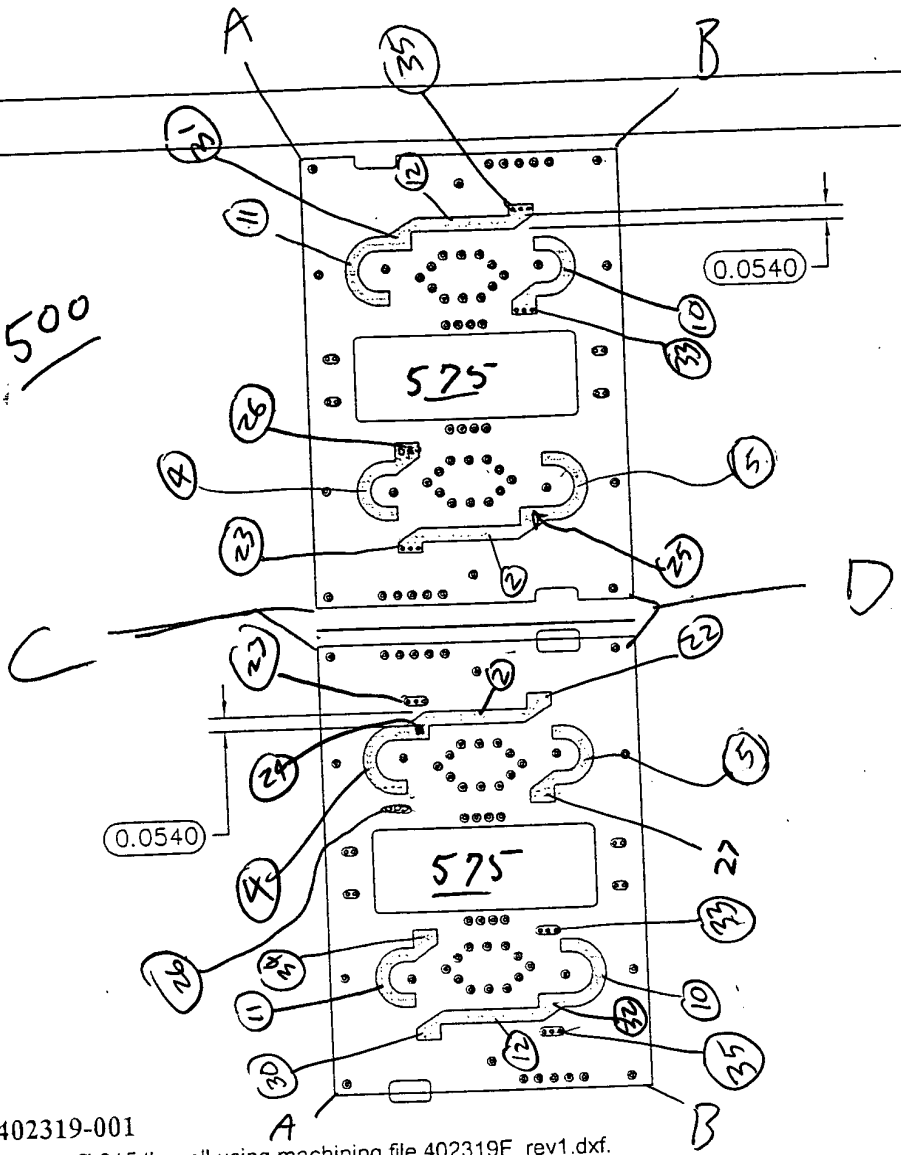
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402317	X2
SCALE: 1.5:1			SHEET: 4 of 9

DRAWING NUMBER:
XMP402317



3. Panel 402319-001

3.1. Drill 73 holes Ø.015 thru all using machining file 402319F_rev1.dxf.

3.2 Plasma Etch per MMWI-1223
3.3 Plate Electroless Copper per MMWI-1039.
3.4 Electrolytic Copper Plate per MMWI-1046
3.5 Laminate per MMWI-1201
3.6 Expose top and bottom sides of panel 402319-001 per MMWI-1204.
  3.6.1 Use mask 402319MT-001_REV1 for topside.
  3.6.2 Use mask 402319MB-001_REV1 for bottom side.
3.7. Develop per MMWI-1205.
3.8. Etch Copper per MMWI-1211.
3.9. Strip Photoresist per MMWI-1207
3.10. Clean Substrate prior to bonding per MMWI-1224.
3.11 Vacuum Bake 150°C for 1 hour.

3.12. Inspect dimensions as shown per MMWI-5000.
3.13. Mill 2 slots .174 X .085 Ø.0355, 1 slot .914 X .335 Ø.0355, through all using machining file 402319F_rev1.dxf.

Fig. 5

FIND NO.	PART NO.	DESCRIPTION	QTY
1	801640MMX-005	Rogers 3010; .005 THK, 1/2 oz CU	1

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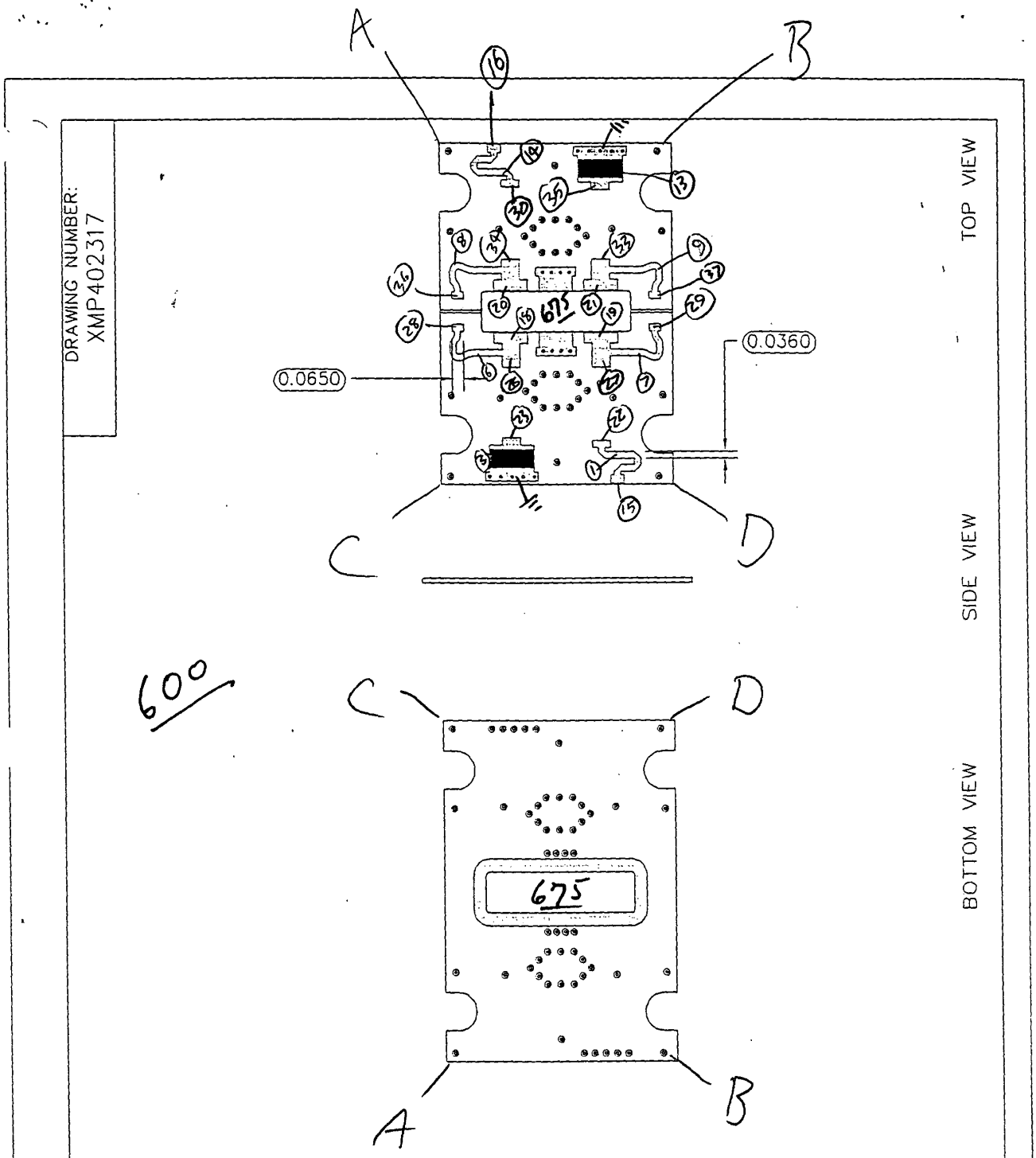
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402317	X1
SCALE: 1.5:1		SHEET: 5 of 9	



TOP, SIDE, AND BOTTOM VIEW OF PANEL 402320-001

Fig. 6

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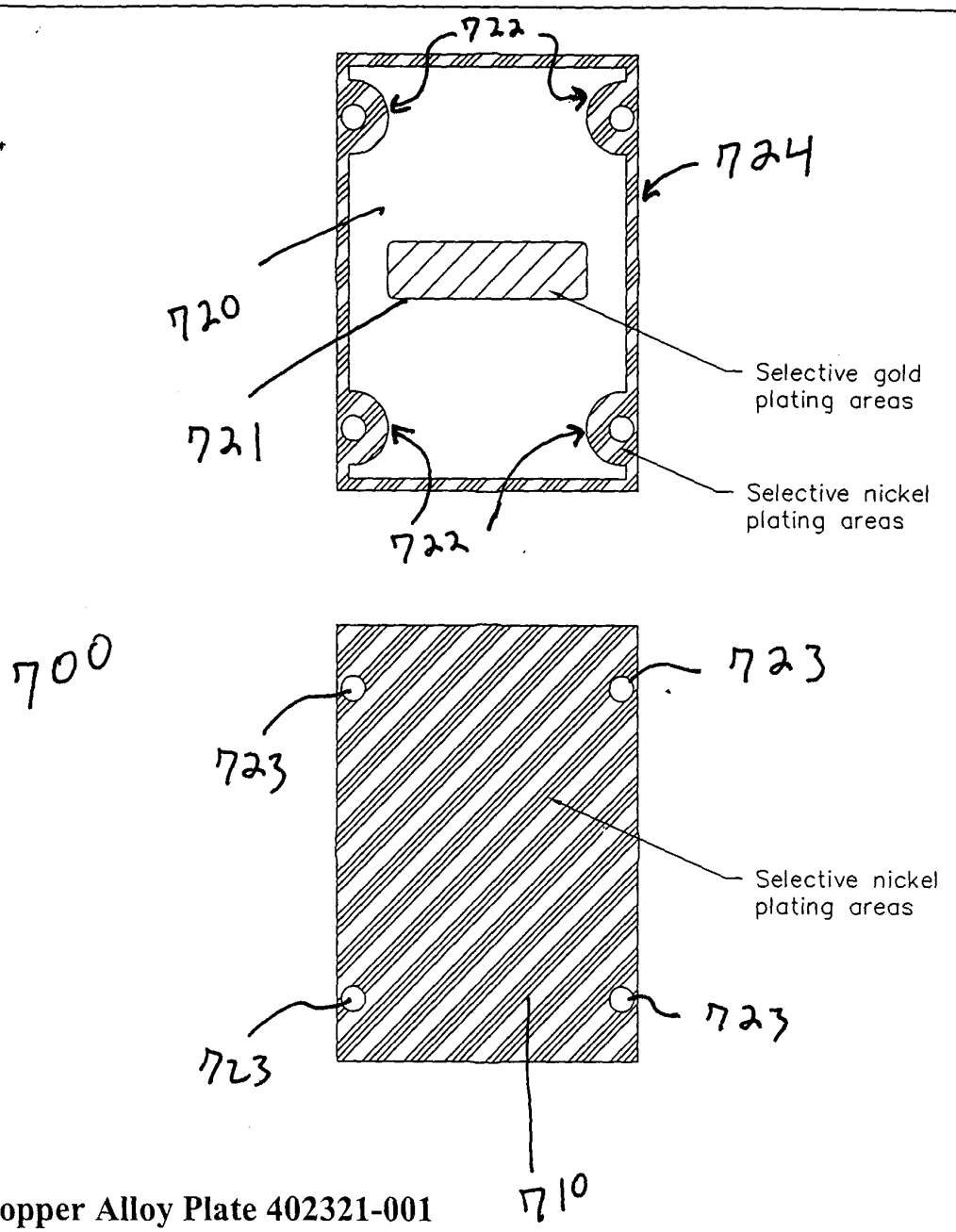
		SCALE: 1.5:1		SHEET: 6 of 9	

DRAWING NUMBER: XMP402317



5. Copper Alloy Plate 402321-001

(SEE DRAWING 402322 FOR INSTRUCTIONS)

Fig. 7

1	402322-001	Cu Alloy plate, .062 thk.	1
FIND NO.	PART NO.	DESCRIPTION	QTY

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SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402317	X2

SCALE: 1.5:1 SHEET: 8 of 9

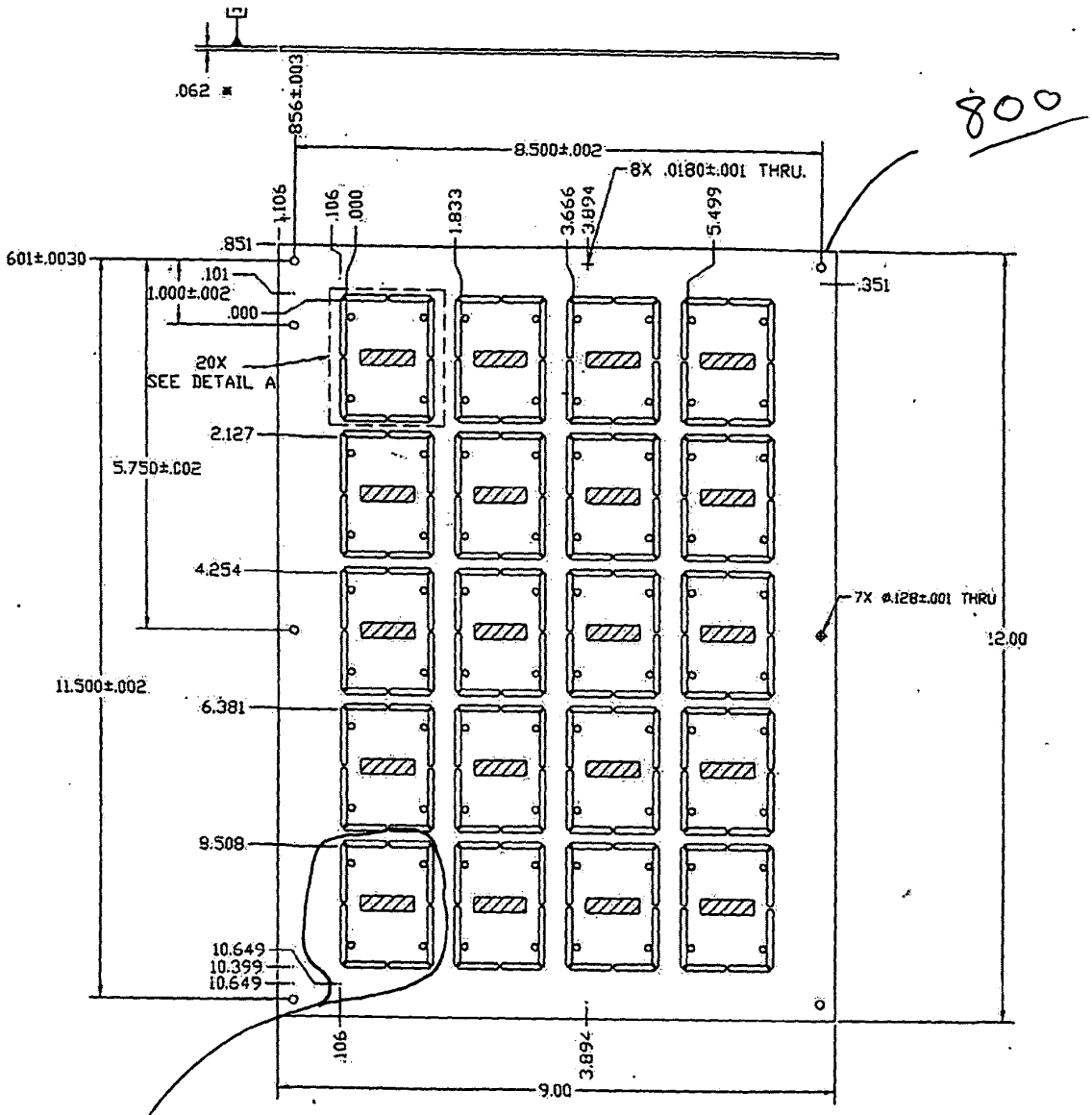

800
.062
.856±.003
8.500±.002
8X .0180±.001 THRU.
1.106
.106
.000
1.833
3.666
3.894
5.499
.851
601±.0030
.101
1.000±.002
.000
.351
20X
SEE DETAIL A
2.127
5.750±.002
4.254
7X ø.128±.001 THRU
12.00
11.500±.002
6.381
9.508
10.649
10.399
10.649
.106
3.894
9.00
one module of twenty in panel

Fig. 8

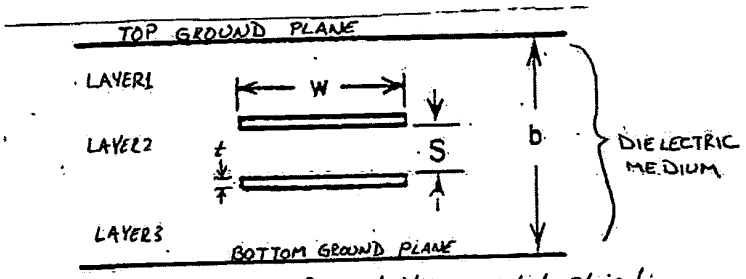


Fig. 9 End view of broadside coupled strip lines.

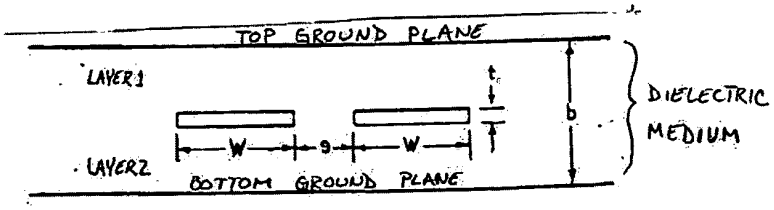


Fig. 10 End view of edge coupled strip lines.

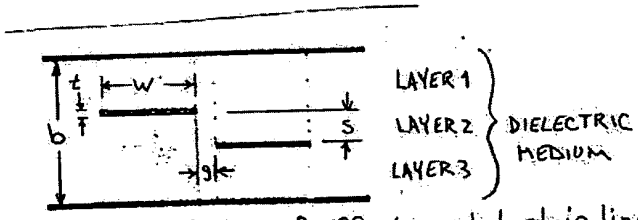


Fig. 11 End view of offset coupled strip line (with gap)

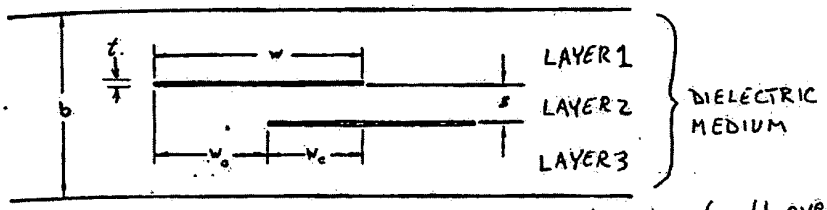


Fig. 12 End view of offset coupled strip line (with overlay)

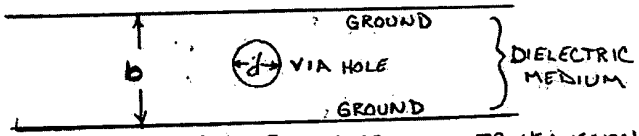


Fig. 13 TOP VIEW OF A SLAB LINE TRANSMISSION LINE

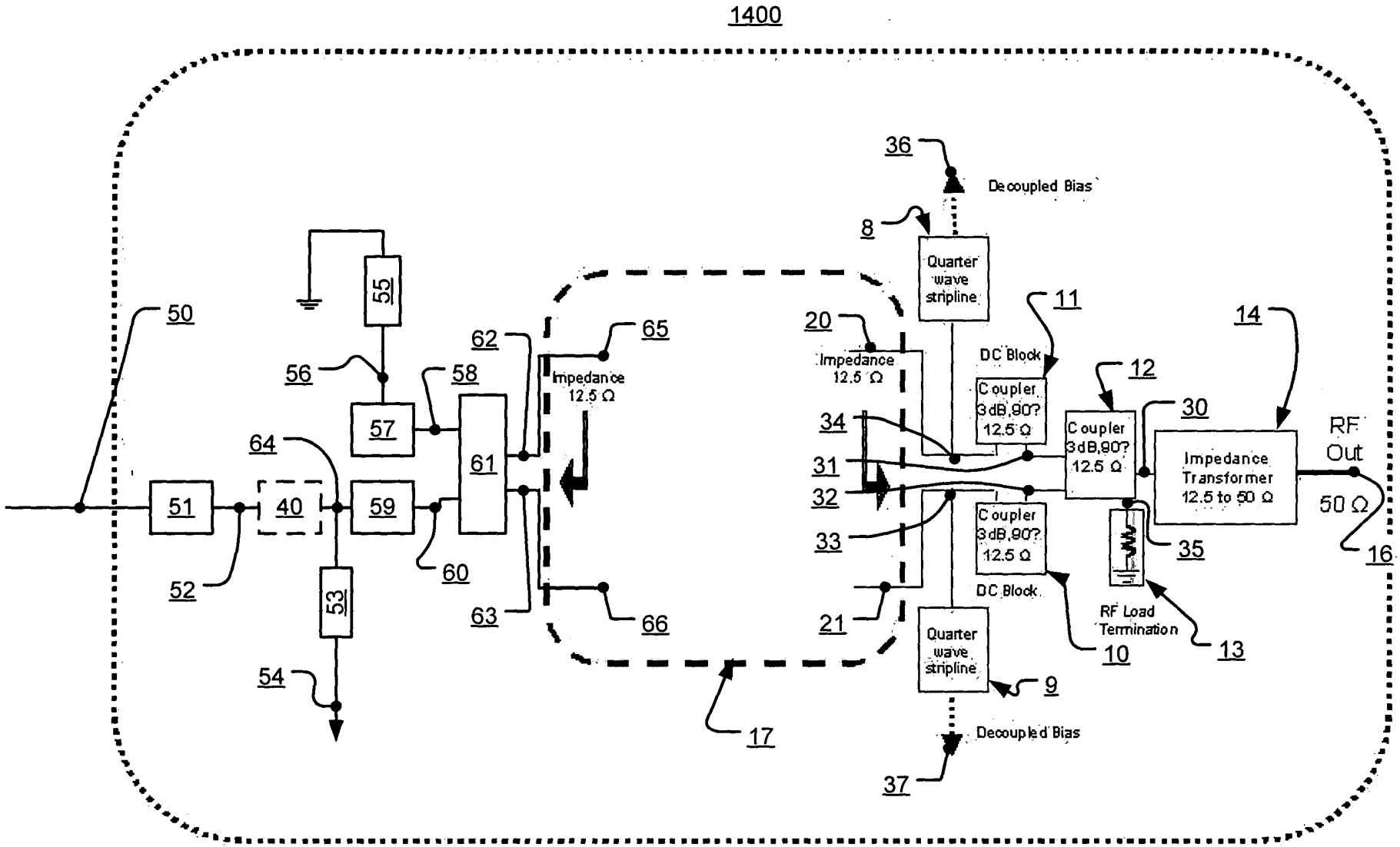
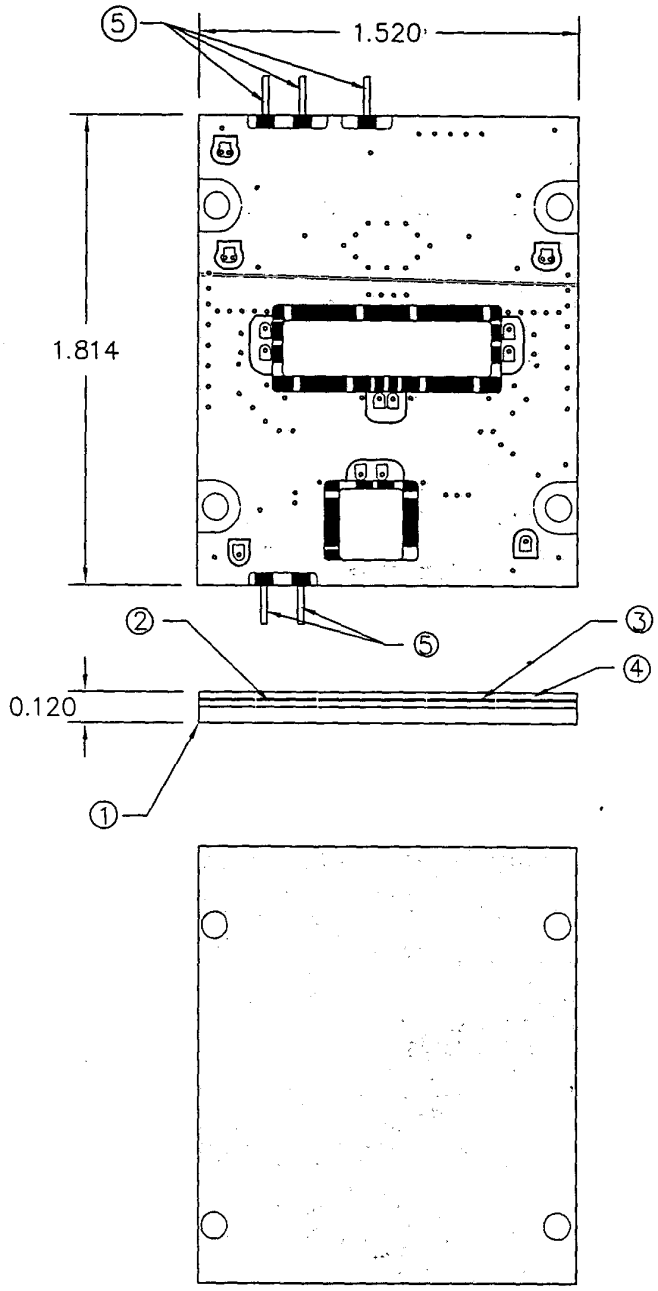

1400
36
Decoupled Bias
8
Quarter wave stripline
11
DC Block
20
Impedance 12.5 Ω
Coupler 3dB,90? 12.5 Ω
12
14
30
Coupler 3dB,90? 12.5 Ω
Impedance Transformer 12.5 to 50 Ω
RF Out
50 Ω
16
50
55
56
58
62
65
Impedance 12.5 Ω
34
31
32
33
21
64
57
61
51
40
59
52
53
60
63
66
54
35
RF Load Termination
13
Coupler 3dB,90? 12.5 Ω
DC Block
10
Quarter wave stripline
9
17
Decoupled Bias
37

Fig. 14

DRAWING NUMBER:
XMP402219



Top, Side, and Bottom View of Assembly 402219-001

Fig. 15

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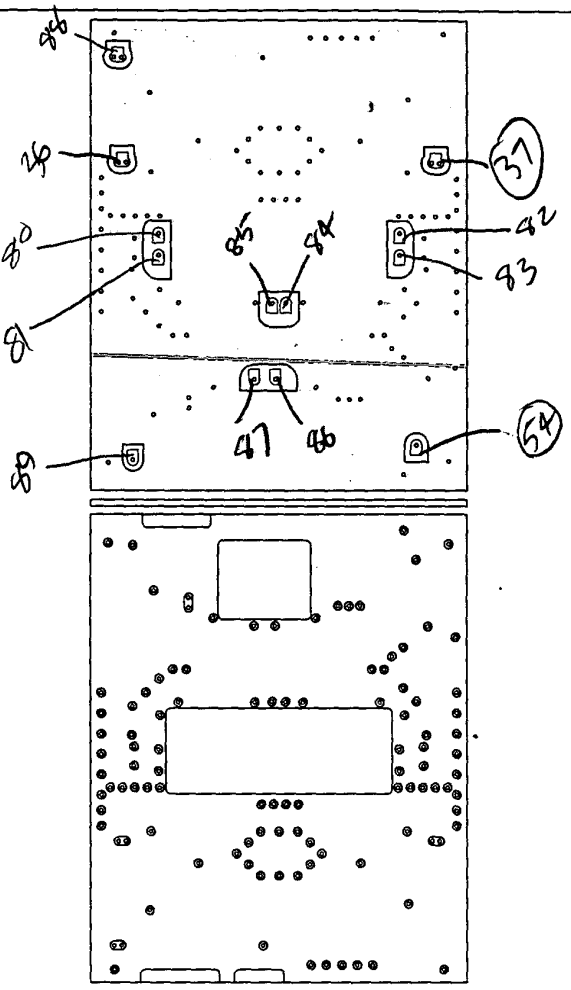
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402219	X3
SCALE: 1.5:1			SHEET: 2 of 9

DRAWING NUMBER: XMP402219



1600

2. Panel 402221-001

2.1. Drill 108 holes Ø.015 thru all using machining file 402221F_REV2.dxf.

2.2 Plasma Etch per MMWI-1223
2.3. Plate Electroless Copper per MMWI-1039.
2.5. Laminate per MMWI-1201
2.6. Expose top and bottom sides of panel 402221-001 per MMWI-1204.
2.6.1 Use mask 402221MT-001_REV2 for top side.
2.6.2 Use mask 402221MB-001_REV2 for bottom side.
2.7. Develop per MMWI-1205.
2.4. Electrolytic Copper Plate per MMWI-1046
2.6. Electrolytic nickel/ Au plate (50 micro inches THK) per MMWI-1053.
2.9 Strip Photoresist per MMWI-1207
2.8. Etch Copper per MMWI-1211.

2.10. Clean Substrate prior to bonding per MMWI-1224.
2.11. Vacuum Bake 150°C for 1 hour.
2.12. Mill 1 slots .320 X .085 Ø.0355, 1 slot .275 X .085 Ø.0355, 1 slot .200 X .085 Ø.0355, 1 slot .914 X .335, Ø.0355, and 1 slot .305 X .375, Ø.0355 all 5 from the bottom side .015 deep using machining file 402221F_rev2.dxf.

Fig. 16

FIND NO.	PART NO.	DESCRIPTION	QTY
1	801640MMX-007	Rogers 3010, .025 THK, 1/2 oz CU	1

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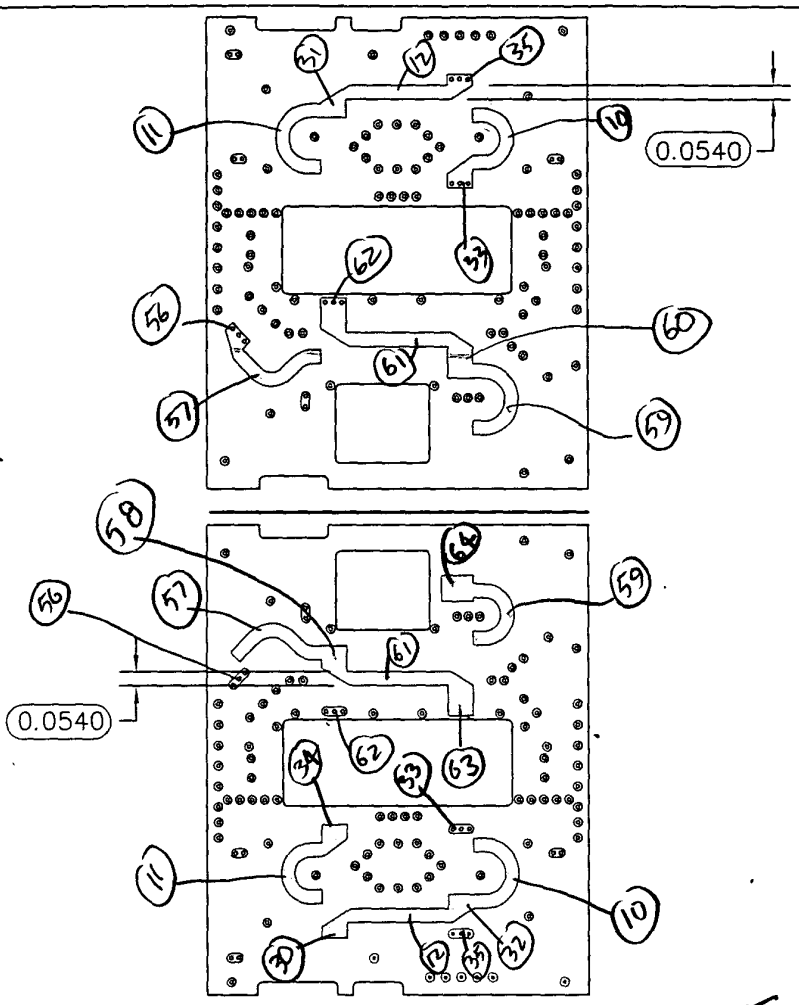
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402219	X3

SCALE: 1.5:1 SHEET: 4 of 9

DRAWING NUMBER:
XMP402219



170°

Fig. 17

3. Panel 402222-001

3.1. Drill 110 holes Ø.015 thru all using machining file 402222F_rev2.dxf.

3.2 Plasma Etch per MMWI-1223
3.3 Plate Electroless Copper per MMWI-1039.
3.4 Electrolytic Copper Plate per MMWI-1046
3.5 Laminate per MMWI-1201
3.6 Expose top and bottom sides of panel 402222-001 per MMWI-1204.
  3.6.1 Use mask 402222MT-001_REV2 for topside.
  3.6.2 Use mask 402222MB-001_REV2 for bottom side.
3.7. Develop per MMWI-1205.
3.8. Etch Copper per MMWI-1211.
3.9. Strip Photoresist per MMWI-1207
3.10. Clean Substrate prior to bonding per MMWI-1224.
3.11 Vacuum Bake 150°C for 1 hour.

3.12. Inspect dimensions as shown per MMWI-5000.
3.13. Mill 1 slots .320 X .085 Ø.0355, 1 slots .275 X .085 Ø.0355, 1 slots .200 X .085 Ø.0355,
1 slot .914 X .335, Ø.0355, and 1 slot .305 X .375, Ø.0355 through all using machining file 402222F_rev2.dxf.

.1	801640MMX-005	Rogers 3010, .005 THK, 1/2 oz CU	1
FIND NO.	PART NO.	DESCRIPTION	QTY

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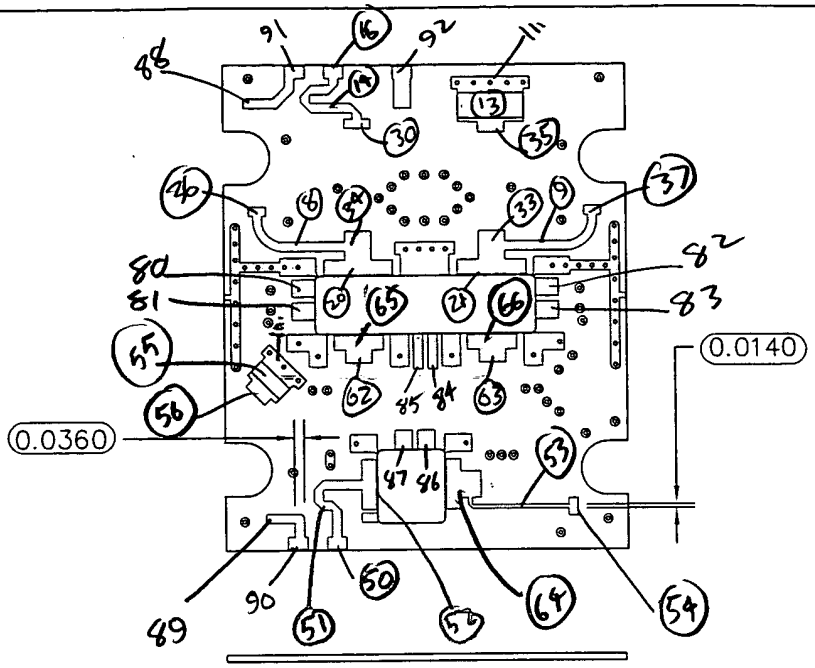
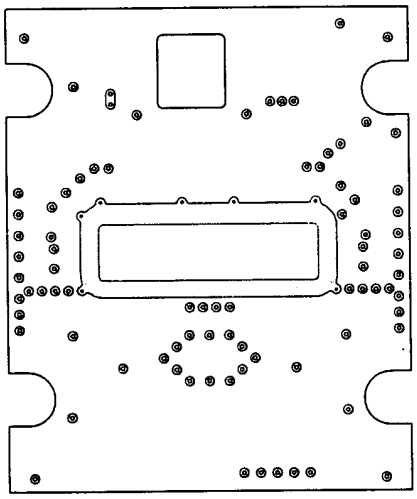
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402219	X3
SCALE: 1.5:1		SHEET: 5 of 9	

DRAWING NUMBER:
XMP402219



TOP VIEW

SIDE VIEW



BOTTOM VIEW

1800

TOP, SIDE, AND BOTTOM VIEW OF PANEL 402223-001

Fig. 18

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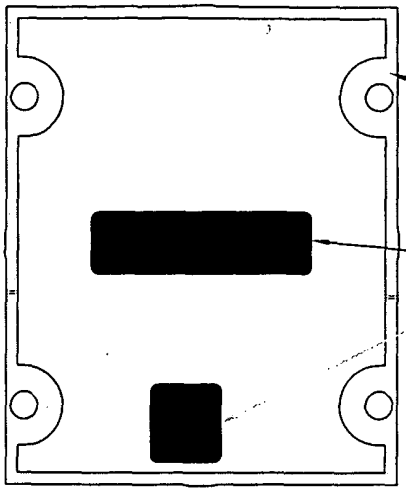
SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402219	X3

SCALE: 1.5:1

DRAWING NUMBER:
XMP402219



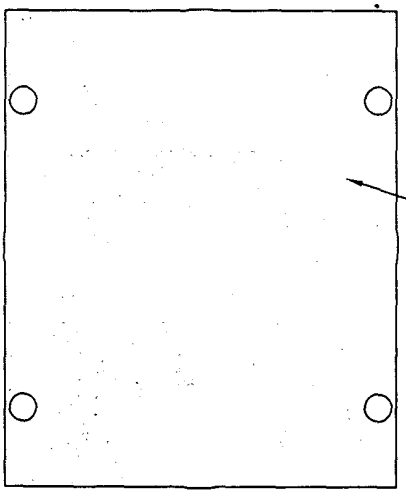
Selective nickel plating area

Selective gold plating area

TOP VIEW

SIDE VIEW

1900



Selective nickel plating area

BOTTOM VIEW

5. Copper Alloy Plate 402224-001

(SEE DRAWING 402301 FOR INSTRUCTIONS)

Fig. 19

1	402301-001	Cu Alloy plate, .062 thk.	1
FIND NO.	PART NO.	DESCRIPTION	QTY

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SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
A	12457	XMP402219	X3
SCALE: 1.5:1		SHEET: 8 of 9	